

NOTES FROM THE FIELD
GEOLOGIC RESOURCES INVENTORY
BLACK CANYON OF THE GUNNISON NATIONAL MONUMENT, CO
CURECANTI NATIONAL RECREATION AREA, CO

Geology Workshop Report
Bruce Heise
Geologic Resources Division

SUMMARY

FIELD TRIP

U. S. Geological Survey geologist emeritus Wallace Hanson and Western State College professor Bruce Bartleson led a field trip for Black Canyon and Curecanti park staff, NRPC staff, and Colorado Geologic Survey geologist Jonathon White

Paleontological Dig _ located Apatosaurus fossil, Tony Fiorella did work
Climbing does not appear to be a major resource issue

ISSUES

Haystack Cave – location on BLM land just off of park beneath of Blue Mesa tuff, gas bubble type cave, excellent faunal assemblage, more of an alcove than an actual cave

NPS people present were Sarah Beetch and Ann Poole, both GIS

See Sara and Ann's write-ups: need to attach doc

Mylars from National Archives: (disposition of original maps – mylars, author scribes) question about what happens to or what has happened to original work

INTERPRETATION

GEOLOGIC MAP

Bartleson – mapped West Elk Wilderness, Gaskill and Bartleson – Open File
Report need to add to list, need to add lower Black Canyon, GQ – 0747, for Black Ridge Quadrangle, fits into the CURE area

DIGITIZING STATUS

State interest – use within GIS realm with numerous applications (HAZVIEW)

At GIS workshops, a geologic map session going through the problems and concerns associated with going from paper/mylar copy to a digital product

For Doug Bradley in Albuquerque are there geologists available for the digitizing process?

Randy Phillips from state office, their GIS person, might be a good person to have at USGS meeting

Discussed standards and products – consistent among different agencies, offices, parks

Problems scanned map, attributes – ex. S = schist or syenite ? both on scanned map

Question – from Ann, Black Canyon Formation and Black Canyon Schist
ARCVIEW allows 64 attribute s, BLCA/CURE has over 100 rock types, is this still a problem in newer versions

Iterated preference is for 1:24000, not all maps in that scale, do not have resources to remap, will need to use what is available, Lindsay's comment???

Was done at 31,000 scale, BLCA could not fit on 24000, better to have all on one sheet

Interesting point on problem with matching borders, there are certain geologic concepts that change that influence the interpretation of the rocks, some ideas on formation of tuffs not present at the time of mapping

Tuffs, by the way, Fish Canyon 720+ cubic miles, world record size of this eruption, lots of tuff

Problems – symbol standardization

Ann Poole status – possible employment

Way to handle – generalize within formation boundaries, in explanation provide discussion of existence of smaller rock unit types

HAZARDS

Jon is unsure of status of hazard maps and is unlikely to do so unless there is significant growth. Generally, Wally and Bruce believe that siting of buildings hasn't been on any fault zone. Some problem of roads and associated slumping. Highway 50 has ongoing slides and numerous potential Route 92 has potential slides on north side of park. Possible shoreline investigation for slumps and rockfalls – slope classification map could be done out of DEM data.

SOILS MAPPING

There is a NRCS office in Montrose. There is a Montrose/Delta survey published, need to check on digitizing status. We will query the existing database to determine what is going on.

RMP STATEMENTS

CURECANTI

See list

BLACK CANYON

See list

FAQS

RESEARCH NEEDS IN PARK

Rim Gravels – age of downcutting, chemical alteration of gravels
Precambrian history
Dating talus cones inside canyon – will give dates of fans and cones using lichens
Complete maps of areas north of CURE, possible EDMAP
Develop depositional environment for formations surrounding visitor center-Pete Peterson work as GIP
Geomorphology driven by raising and lowering the reservoir level
Road surrounding the reservoir is relocated because of inundation
What sort of Investigators Annual Report work has been done re. Geology
Interpretive Question:
Any feel for what sort of park use for education is driven by geology
What does this park have as a unique geologic feature?
What about getting the two pieces mapped in north CURE –
 EDMAP – advisor need, compete with other COL projects
 Need 50% fed, 50% matching (?)
David Hedlund retired USGS possible mapper, possible volunteer
Dedicated funds for formalized training for seasonal interpreter
GPS capability for mapping – what does park have? General support for using

HISTORICAL WORK

In the 20s – Hunter did recon
Gunnison did not make it to the Canyon

REPORT

To a large part, we refer to Wally's book
Kathleen May – Tony Fiorella – Paleontological Report piece

MINING/Disturbed Land

Pegmatite quarry
Feldspar quarry – on private land, we have report on it

For the state, COLM and GRSA folders

FOR BRUCE'S TA

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mileage 160 miles